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Jiro Naka

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EXAMINER

GAKH, YELENA G

ART UNIT

PAPER NUMBER

1777

NOTIFICATION DATE

DELIVERY MODE

12/29/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/576,254	<b>Applicant(s)</b> NAKA ET AL.	
	<b>Examiner</b> Yelena G. Gakh, Ph.D.	<b>Art Unit</b> 1777	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

1. Amendment filed on 11/11/10 is acknowledged. Claims 1-8 are cancelled. New claims 9-14 are submitted and considered on merits.

### **Response to Amendment**

2. In response to the amendment the examiner withdraws objection to the specification as not being written in proper idiomatic English and maintains other objection and modifies rejections under 35 U.S.C. 112, first and second paragraphs.

### **Specification**

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to as not containing "a written description of the invention, ...., in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, ... to make and use the same".

In particular, it is not clear from the specification, how is it possible to measure the quantity of the additives in the polymer by contacting only a surface of the polymer piece with the solvent? If the additives are evenly spread through the bulk of the polymer sample, how is it possible to completely extract the additives from the sample by contacting only one surface of the sample with the solution? A complete extraction of the additives from the polymer is a separate task in the field, as can be clearly seen from the paper by Richter et al. "Accelerated Solvent Extraction: A Technique for Sample Preparation" (Anal. Chem., 1996), Vandenburg et al. "Analytical Extraction of Additives from Polymers" (Analyst, 1997), or Vandenburg et al., "A simple solvent selection method for accelerated solvent extraction of additives from polymers" (Analyst, 1999). Furthermore, different solvents may extract different additives. From the specification it is not apparent, whether the Applicants applied any standard for obtaining quantitative results, since the correlation between the concentration of the additives and the peak

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areas of e.g. HPLC chromatogram provides a relative, rather than the absolute value. Thus, the quantitation of the additives does not seem to be possible with the method disclosed.

The specification discloses only examples of preliminary added a specific antioxidant in a known quantity to high density polyethylene and correlating the results to the added quantity - no experiment has been shown for determining an unknown quantity. The second example concerns added brominated flame retardant with the same unclear procedure regarding kneading the additive. Again it is not clear, which standard has been used for obtaining the absolute values of the retardant, since only a portion of the additive could have been extracted. At least, the completeness of the extraction has not been tested. Furthermore, the amount of the additive is related to the amount of the substrate (e.g. Si or Ag) on which the additive remains after extraction and drying up. It is totally unclear, how the amount of the substrate is related to the amount of the polymer, and therefore - how it is related to the amount or concentration of the additive in the polymer.

#### **Claim Rejections - 35 USC § 112**

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 9-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims recite "a method of analyzing a minute content of a polymer". While being unclear on its own, it appears that this expression recites determining the concentration of the additive in the polymer. The specification discloses exclusively determining relative proportion of the content of an additive in the polymer for several samples of the same polymer which have different contents of the additive. Furthermore, the specification does not provide any evidence that the second step is enabled, since there are no experiments which confirm full

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extraction of the additive from the polymer pellet by contacting only one surface of the pellet with the solvent instead of immersing the pellet into the solvent.

The examiner respectfully reminds the Applicants that according to MPEP §2163:

**"2163.02. Standard for Determining Compliance with Written Description Requirement:**

The courts have described the essential question to be addressed in a description requirement issue in a variety of ways. An objective standard for determining compliance with the written description requirement is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Under *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), to satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed. The test for sufficiency of support in a parent application is whether the disclosure of the application relied upon "reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter." *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) (quoting *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983)). Whenever the issue arises, the fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. See, e.g., *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). Possession may be shown in a variety of ways including description of an actual reduction to practice, or by showing that the invention was "ready for patenting" such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention. See, e.g., *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 68, 119 S.Ct. 304, 312, 48 USPQ2d 1641, 1647 (1998); *Regents of the University of California v. Eli Lilly*, 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997); *Amgen, Inc. v. Chugai Pharmaceutical*, 927 F.2d 1200, 1206, 18 USPQ2d 1016, 1021 (Fed. Cir. 1991) (one must define a compound by "whatever characteristics sufficiently distinguish it").

The Applicants did not show "possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention."

6. Claims 9-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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### **The Breath of the Claims and the Nature of the Invention**

The claims recite very broadly a method of analyzing a minute content of a polymer material by placing a pellet of the polymer onto the surface and disposing an organic solvent between the pellet and the substrate, which is supposed to dissolve the material (additive) from the pellet.

### **The State of the Prior Art and the Level of Predictability in the Art**

The prior art teaches that complete extraction of the additives from polymers within a reasonable time frame is a special problem in the art, see Richter et al. "Accelerated Solvent Extraction: A Technique for Sample Preparation" (Anal. Chem., 1996):

"Sample extraction procedures are often perceived as bottlenecks in analytical methods. In the last few years, various attempts have been made to replace classical extraction techniques (for example, automated Soxhlet extraction,1,2 microwave dissolution, 3-6 sonication extraction,7-9 and supercritical fluid extraction.10-12 ). Each technique reduces the volume of extraction solvent required and shortens the sample preparation time as compared to Soxhlet extraction." (Page 1033, left column),

Vandenburg et al. "Analytical Extraction of Additives From Polymers" (Analyst, 1997):

"Here the analyte is extracted from the solid medium by a liquid, which is separated by physical means, such as filtration. There are many methods for carrying out these extractions including Soxhlet, sonication and shake-flask extractions. Spell and Eddy<sup>17</sup> studied the extraction of additives from PP at room temperature and found that required extraction time varied linearly with polymer density and decreased with increasing particle size. They also found a large variation in extraction time for different solvents and additives. By powdering the polymer to 50 mesh size, 98% extraction of 2,6-di-tert-butyl-4-methylphenol (BHT) was achieved by shaking at room temperature for 30 min with carbon disulfide. To achieve the same recovery with isooctane required 125 min, and 2000 min were required to recover Santonox with isooctane. The importance of small particles is further demonstrated by Newton.<sup>14</sup> Refluxing ground PP with chloroform for 1 h gives complete extraction. For films, 3 h are required and for unground granules 3 h are sufficient to provide an extract **for identification purposes only**. Ethoxylated tertiary amines can be extracted from PP by refluxing the ground material with 1,2-dichloroethane for 1 h. Refluxing the granules for 3 h gives only 85% extraction." (Page 102R, left column),

or

Vandenburg et al., "A simple solvent selection method for accelerated solvent extraction of additives from polymers" (Analyst, 1999):

"The additive content of polymers needs to be known for quality and regulatory reasons. The additive is usually extracted from the polymer before analysis. Traditional methods such as

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Soxhlet extraction, boiling under reflux or dissolution of the polymer followed by re-precipitation, are often very time consuming and can use large amounts of solvents. These techniques are also difficult to automate. There are several new techniques of extraction which have been applied, most widely to environmental samples, resulting in reduced extraction time and solvent usage. These are supercritical fluid extraction (SFE), microwave assisted extraction (MAE) and accelerated solvent extraction (ASE®), which have been described in recent articles.<sup>1-3</sup> Of these techniques, SFE has been available the longest and has been most widely applied to polymers, resulting in rapid extractions, summarised in a recent review.<sup>4</sup> However, there are indications that use of normal liquid solvents can improve on the extraction rates achieved by SFE.<sup>5</sup>" (page 1707, left column).

The prior art does not predict any success for complete extraction of the additives from a pellet of the polymer by contacting the solvent with the surface of the polymer pellet.

#### **The Existence of Working Examples**

The Applicants provided specific examples for "analyzing" specific additives added in known amounts to the polymer samples of a specific small size and using the method of extracting some amount of the additives by contacting the surface of the sample with the known amount of the solvent. Furthermore, while the Applicants found linear correlation of the analytical data and the relative concentrations of the additives, there is no confirmation of the complete extraction of the additives using the method of contacting only the surface of the polymer with the solvent. Furthermore, no standard of a known concentration for the same polymer has been used, and no signals from the polymer itself were compared with the signals for the additive. The fact that the results for different amounts of the additives in different samples are proportional to these amounts are expected; however no absolute amount of the additive has been determined by the experiments.

#### **The Quantity of Experimentation Needed to Make or Use the Invention Based on the Content of the Disclosure**

It would have been an undue experimentation for a person of ordinary skill in the art to perform the method in the scope of the claims.

Claim 10 is separately rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the method of measuring brominated flame retardant in the polymer in the case that the amount of the polymer is known and the standard with the known concentration of the retardant was used, does not reasonably provide enablement for any other additive in any other sample and in the absence of this information. The specification does not

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enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. The specification discloses improving extraction efficiency of brominated flame retardant by using silver salts in the solvent. This is caused by forming a complex between brominated compound and silver, as it is well known that silver salts, such as nitrate, react with halogen compounds to form  $\text{Ag}^+\text{Hal}^-$ . No other additives have been shown to be extracted using silver salts. Furthermore, the concentration of the retardant could be calculated only if the standards with the known concentration were used. It would have been an undue experimentation for a person of ordinary skill in the art to search for other components in the material to be extracted using silver salts in the solvent and analyze the amount without the standard.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 9-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite "a method of analyzing a minute content of a polymer" with "a minute content of a polymer" being an unclear expression. What does it mean? Does it mean a content of an additive in the polymer? The expression should be clarified. Furthermore, it is not clear, what is meant by the expression "method of analysis of the content" - does it mean the method of quantitative or qualitative analysis? Since the additives in polymers are known, it appears that it is suppose to be a quantitative analysis. However, for quantitative analysis the method does not seem to be enabled. Furthermore, the first step of claim 9 recites "a minute content of a material different from the polymer material" - is this additive or something else? Is this the same "a minute content" that is recited in the preamble of the claim? Then definite article "the" should be placed in front of the "minute content". Still, it is not clear, what is meant by the term "analyzing" the minute content of the polymer.

From the third step it not clear, how it is determined that the additive ("minute content") is completely dissolved.



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From the last step it is not clear, what the term "analyzing" means in the context of the specification, since the analyzed additives are known? It is not apparent, what does it mean "identifying the minute content"? The expression renders the claims unclear and indefinite.

From claim 10 it is not apparent, which specific silver composition is recite in the claim, and how it is related to the additive in the polymer.

The Applicants are respectfully referred to the following excerpt from MPEP:

**"§2171 Two Separate Requirements for Claims Under 35 U.S.C. 112, Second Paragraph:**

The second paragraph of 35 U.S.C. 112 is directed to requirements for the claims: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

There are two separate requirements set forth in this paragraph:

- (A) the claims must set forth the subject matter that applicants regard as their invention; and
- (B) the claims must particularly point out and distinctly define the metes and bounds of the subject matter that will be protected by the patent grant.

The first requirement is a subjective one because it is dependent on what the applicants for a patent regard as their invention. The second requirement is an objective one because it is not dependent on the views of applicant or any particular individual, but is evaluated in the context of whether the claim is definite - i.e., whether the scope of the claim is clear to a hypothetical person possessing the ordinary level of skill in the pertinent art.

Although an essential purpose of the examination process is to determine whether or not the claims define an invention that is both novel and nonobvious over the prior art, another essential purpose of patent examination is to determine whether or not the claims are precise, clear, correct, and unambiguous. The uncertainties of claim scope should be removed, as much as possible, during the examination process.

The inquiry during examination is patentability of the invention as applicant regards it. If the claims do not particularly point out and distinctly claim that which applicants regard as their invention, the appropriate action by the examiner is to reject the claims under 35 U.S.C. 112, second paragraph. *In re Zletz*, 893 F.2d 319, 13 USPQ2d 1320 (Fed. Cir. 1989). If a rejection is based on 35 U.S.C. 112, second paragraph, the examiner should further explain whether the rejection is based on indefiniteness or on the failure to claim what applicants regard as their invention. *Ex parte Ionescu*, 222 USPQ 537, 539 Bd. App. 1984)"

Furthermore:

**"§2172 Subject Matter Which Applicants Regard as Their Invention:**

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If the language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement, a rejection of the claim under 35 U.S.C. 112, second paragraph, would be appropriate. See *Morton Int 'l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470, 28 USPQ2d 1190, 1195 (Fed. Cir. 1993)."

"The language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement", since it is not clear, which silver composition is meant in the claim.

### Claim Rejections - 35 USC § 103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. **Claims 9, 11 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-077158 A (Abstract, IDS) in view of Médard et al. (Surface and Interface Analysis, 2002) (Médard).

JP 2001-077158 discloses: "A surface of a wafer 1 is dipped in a diluted aqua region 3 made of aqua region diluted in pure water for a given time, and the diluted aqua region 3 is recollected. The aqua region 3 is vaporized to dried, solidified, and resolved in a nitric acid. Then, the metallic contamination on the surface of the silicon wafer 1 is analyzed by inductively coupled plasma mass spectrometry (ICP-MS) or atom absorption spectrometry (AAS)" (Abstract). This disclosure makes it obvious to perform the steps of injecting the solvent under the sample surface to cover the sample surface, extract the additives and analyze them using secondary mass spectrometry. It would have been obvious for a person of ordinary skill in the art to shake (vibrate) the apparatus in order to accelerate extraction of the additives from the sample into the solvent (Claim 6).

While JP 2001-077158 does not specifically disclose time-of-flight secondary mass spectrometry (ToF-SIMS) for analysis of the additives in the polymer, Médard discloses "Characterization of additives at polymer surfaces by ToF-SIMS" (Title):

"In order to test the possibility of additive concentration quantification based on SIMS data, model samples were prepared. Samples consisted of thin polymer layers deposited by spin coating from solutions containing controlled amounts of selected additives. After identification of the main characteristic additive peaks, the SIMS intensity measured on these samples was compared with

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the bulk additive concentration. Our results showed that for the Irgafos 168–Hostavin N30 mixtures a linear relationship was found between SIMS intensity ratio and bulk composition. Thus, no synergy effect was detected when these additives are mixed together. However, for Irgafos 168 in copolymer PETi no linearity was observed. The data, based either on relative intensity or on multivariate statistical analysis (principal component analysis), indicated a strong segregation of the additive at the surface, i.e. a possible synergy effect with the polymer matrix. Finally, it appears that the segregation effect depended greatly on the nature of the additive and the polymer because, for the same bulk concentration, copper phthalocyanine in PETi and Irgafos 168 or Irganox 1010 in atactic polypropylene were barely detected." (Abstract).

It would have been obvious for a person of ordinary skill in the art to apply ToF-SIMS instead of ICP-MS in the method disclosed in JP 2001-077158, because it is shown to give reliable results for quantifying some additives in the bulk of polymer based on surface analysis.

### **Response to Arguments**

11. Applicant's arguments filed on 11/11/10 have been fully considered but they are not persuasive.

Regarding objection to the specification, the examiner first would like to thank the Applicants for their effort to clarify the language of the specification. However, regarding the essence of the invention, the Applicants did not provide any evidence that a solvent can penetrate a pellet of a polymer to fully dissolve the additive, since this depends on the porosity of the polymer, volatility of the solvent, and the power of the solvent regarding the additive, etc. The examiner agrees fully with the Applicants' remarks that "there is no representation in the patent application that 100% of the material dispersed within the polymer is extracted by the organic solvent that is employed", which is exactly correct, and which is the problem that the examiner indicated in the previous and present Office actions. Also, why the pellet has only one surface? There is no such thing as a two-dimensional pellet. Furthermore, the composition of the polymer and the added additives are already known, so the method is not directed toward identifying those additives. As for determining the concentration of the additive in the polymer - the full amount of the additive would not be necessary, if the spectrum gave the peaks simultaneously for the additive and the polymer so that the concentration of the additive in the polymer could be calculated. However, there is no discussion on the polymer spectrum and calculating the concentration of the additive by using the peaks for the additive and the polymer.

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Regarding the standard that the Applicants refer to (on page 16, line 17) - the standard has been used only for identifying the peaks for the compounds, not for calculating the additive content.

Regarding rejection of the new claims under 35 U.S.C. 112, first paragraph, the examiner would like to indicate that measuring the concentration of the known additives in the polymer requires either comparing signal integrals of the polymer and the additive, or using the standard specifically for calculating the concentration of the additive, which was not disclosed in the specification.

Regarding rejection of the new claims under 35 U.S.C. 112, second paragraph - the rejections are new and should be addressed in the next Applicants' response.

Regarding rejection of the new claims over the prior art - the examiner fully agrees with the Applicants that "aqua regia" is not an organic solvent and the silicon wafer is not a pellet of a polymer. This is exactly why the examiner did not establish 35 U.S.C. 102 rejections. Instead, the examiner established obviousness rejection, since the method applied to dissolving contaminants in the silicon wafer is exactly the same as the method recited in the instant claims for the polymer and additives. It is not clear, why it would not be obvious for a routineer in the art to perform the same procedure as was disclosed in the prior art, for extraction and analyzing the additives from the polymer? The Applicants did not seem to provide any strong argumentation regarding non-obvious of the instant application over Oguro's disclosure. The examiner finds their arguments non-persuasive.

### Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yelena G. Gakh, Ph.D. whose telephone number is (571) 272-1257. The examiner can normally be reached on 9:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Y. Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yelena G. Gakh/  
Primary Examiner, Art Unit 1777

12/22/2010